a vibrating body opposed to the substrate and vibratable in the orthogonal X-and Z-directions;

a vibration exciting member for causing said vibrating body to be subjected to an excitation vibration in the X-direction;

a detecting electrode disposed on the substrate for detecting any deflection of said vibrating body in the Z-direction during the excitation vibration thereof in the X-direction; and

a first conductive portion disposed on the substrate on one side of the detecting electrode and a second conductive portion disposed on the substrate on the other side of the detecting electrode for inhibiting the deflection of said vibrating body in the Z-direction.

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2. A resonant element as claimed in claim 1, wherein:

said resonant element includes an angular velocity sensor for detecting the angular velocity around a Y-axis orthogonal to said X- and Z- directions based on vibration of said vibrating body in the Z-direction by a Coriolis force.

3. A resonant element as claimed in claim 1 or 2, wherein:

the detecting electrode detects variation in an electrostatic capacity with respect to said vibrating body in response to a vibration or deflection thereof in the Z-direction.

4. A resonant element as claimed in claim 1 or 2, wherein:

said vibrating body includes a planar vibrating body supported by said substrate via support beams so as to be vibratable in the X-direction.

5. A resonant element as claimed in claim 3, wherein:

said vibrating body includes a planar vibrating body supported by said substrate via support beams so as to be vibratable in the X-direction.

6. A resonant body, as claimed in claim 5, wherein said vibrating body is electrically conductive and the detecting electrode is spaced from said vibrating body such that an electrostatic capacitance is developed between said vibrating body and said electrode.

7. A resonant body, as claimed in claim 6, wherein said vibrating body is disposed above said substrate and said detection electrode is disposed on a surface of said substrate below said vibrating body.

8. A resonant body, as claimed in claim 6, wherein said vibrating body is disposed above said substrate and said detection electrode is disposed in a cavity in said substrate below said vibrating body.

9. An angular velocity sensor comprising:

a vibrating body vibratable in orthogonal X- and Z-directions;

an exciting member for causing said vibrating body to be subjected to an excitation vibration in the X-direction;

a detecting electrode for detecting any deflection of said vibrating body in the Z-direction during the excitation vibration thereof in the X-direction, said detecting electrode detects variation in an electrostatic capacity with respect to said vibrating body in response to a deflection thereof in the Z-direction;

a first conductive portion disposed on the substrate on one side of the detecting electrode and a second conductive portion disposed on the substrate on the other side of the detecting electrode for inhibiting the deflection of said vibrating body in the Z-direction; and

wherein the electrostatic capacity detected by said detecting electrode is converted into a voltage.

10. An angular velocity detector, as claimed in claim 9, wherein said vibrating body is rotatable about the Y-axis orthogonal to said X- and Z-directions to thereby impart an angular velocity to said vibrating body which causes said body to vibrate in the Z-direction due to a Coriolis force and said detection electrode detects the vibration of said vibrating body in the Z-direction.

11. An angular velocity detector, as claimed in claim 9, further comprising a FET which converts the electrostatic capacity into a voltage.

12. A method for adjusting the vibration of a resonant element comprising the steps of:

providing a resonant element including a vibrating body vibratable in orthogonal X- and Z-directions, an exciting member for causing said vibrating body to be subjected to an excitation vibration in an X -direction, a detecting electrode for detecting the variation in an electrostatic capacity with respect to said vibrating body in response to the deflection thereof in the Z-direction, and a first conductive portion disposed on the substrate on one side of the detecting electrode and a second conductive portion disposed on the substrate on the other side of the detecting electrode which provide electrostatic attractive forces to said vibrating body and which inhibit the deflection of said vibrating body in a Z-direction during the excitation vibration thereof in the X-direction;

detecting the variation in the detected electrostatic capacity by said detecting electrode as a deflection of said vibrating body in the Z-direction while the vibrating body is caused to be subjected to an excitation vibration in the X-direction by said exciting member; and

controlling said electrostatic attractive forces provided to said vibrating body by said first and second conductive portions in a direction such that the variation in the detected electrostatic capacity by said detecting electrode is canceled.

14. A method for adjusting the vibration of a resonant element as claimed in claim 13, wherein:

the detected electrostatic capacity by said detecting electrode is converted into a voltage using a FET.

15. A method for adjusting the vibration of a resonant element in an angular velocity sensor and then determining angular velocity, comprising:

providing a resonant element including a vibrating body vibratable in orthogonal X- and Z-directions, an exciting member for causing said vibrating body to be subjected to an excitation vibration in an X -direction, a detecting electrode for detecting the variation in an electrostatic capacity with respect to said vibrating body in response to deflection or vibration thereof in the Z-direction, a first conductive portion disposed on the substrate on one side of the detecting electrode and second conductive portion disposed on the substrate on the other side of the detecting electrode which provide electrostatic attractive forces to said vibrating body and which inhibit the deflection of said vibrating body in a Z-direction during the excitation vibration thereof in the X-direction and a circuit for converting the detected electrostatic capacity by said detecting electrode into a voltage;

detecting a first variation in the detected electrostatic capacity by said detecting electrode caused by a deflection of said vibrating body in the Z-direction while the vibrating body is caused to be subjected to an excitation vibration in the X-direction by said exciting member;

controlling said electrostatic attractive forces provided to said vibrating body by said first and second conductive portions in a direction such that the variation in the first detected electrostatic capacity by said detecting electrode is canceled;

applying an angular velocity to said resonant element about a Y-axis orthogonal to said X-and Z- directions to cause said resonant body to vibrate in the Z-direction due to a Coriolis force;

detecting vibration of said vibrating body in the Z-direction due to said Coriolis force utilizing a second variation in the electrostatic capacity detected by said detecting electrode; and

converting said second variation in electrostatic capacity into a voltage using said circuit, said voltage being representative of said angular velocity.

Please ADD the following new claims 16-20:

16. A resonant element comprising:

a substrate defining orthogonal X- and Y-directions and further defining a Z-direction orthogonal to both the X- and Y-directions;

a vibrating body opposed to the substrate and vibratable in the orthogonal X-and Z-directions;

a vibration exciting member for causing said vibrating body to be subjected to an excitation vibration in the X-direction;

a detecting electrode disposed on the substrate for detecting any deflection of said vibrating body in the Z-direction during the excitation vibration thereof in the X-direction; and

at least one conductive portion disposed on the substrate for inhibiting the deflection of said vibrating body in the Z-direction;

wherein the vibrating body is supported by hooked-claw shaped beams which contact the substrate in a region exterior to a region defined by the vibrating body and

the vibration exciting member.

17. A method for adjusting the vibration of a resonant element as claimed in claim 12, wherein the step of controlling said electrostatic attractive force includes the steps of fixing the voltage of one of the first and second conductive portions and varying the voltage of the other one of the first and second conductive portions until the variation in the electrostatic capacity detected by said detecting electrode is canceled.

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18. A method for adjusting the vibration of a resonant element as claimed in claim 15, wherein the step of controlling said electrostatic attractive force includes the steps of fixing the voltage of one of the first and second conductive portions and varying the voltage of the other one of the first and second conductive portions until the variation in the first electrostatic capacity detected by said detecting electrode is canceled.

19. A method for adjusting the vibration of a resonant element as claimed in claim 12, wherein the step of detecting the variation in the detected electrostatic capacity includes the step of converting the detected electrostatic capacity to a voltage, amplifying the voltage, and providing the amplified voltage to an oscilloscope for viewing of the amplified voltage waveform.

20. A method for adjusting the vibration of a resonant element as claimed in claim 15, wherein the step of detecting the first variation in the detected electrostatic capacity includes the step of converting the detected electrostatic capacity to a voltage, amplifying the voltage, and providing the amplified voltage to an oscilloscope for viewing of the amplified voltage waveform.